

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of determining, in a predefined target position, ~~the sound~~ a sound pressure (Δp) resulting from sound emitted from a surface element (ΔS) of a sound emitting surface (S), the method ~~comprising~~ comprising:
 - ~~—measuring,~~ measuring, using a three-dimensional array of a plurality of microphones arranged in a first predefined measuring position relative to the surface element (ΔS), a first three-dimensional distribution of sound ~~pressure,~~ pressure;
 - ~~—calculating,~~ calculating, based on the first three-dimensional distribution of sound pressure, ~~the air particle~~ an air-particle velocity (u_n) on the surface element (ΔS) and perpendicular to the surface element (ΔS), resulting from the sound emitted from the surface (~~S~~); (S);
 - ~~—arranging~~ arranging a sound source capable of emitting a volume velocity (Q_v) in the target ~~position,~~ position;
 - ~~—causing~~ causing the sound source to emit the volume velocity (~~Q_v~~); (Q_v);
 - ~~—measuring,~~ measuring, using a three-dimensional array of a plurality of microphones arranged in a second predefined measuring position relative to the surface element (ΔS) and with the volume velocity (Q_v) emitted from the sound source in the target position creating a dominating sound, a second three-dimensional distribution of sound ~~pressure,~~ pressure;
 - ~~—calculating,~~ calculating, based on the second three-dimensional distribution of sound pressure, ~~the sound~~ a sound pressure (p_v) at the surface element (ΔS) resulting from the volume velocity (Q_v) emitted from the sound source in the target ~~position,~~ position;

~~—determining~~ determining the transfer function $H = p_v/Q_v$ as the ratio of the sound pressure (p_v) at the surface element (ΔS) to the volume velocity (Q_v) emitted from the sound source in the target ~~position;~~position; and

~~—determining~~ determining the sound pressure (Δp) in the target position as
~~_____~~ $\Delta p = H \cdot (u_n \cdot \Delta S)$.

2. (Currently Amended) A method of determining, in a predefined target position, ~~the sound~~ a sound pressure (Δp) resulting from sound emitted from a surface element (ΔS) of a sound emitting surface (S), the method ~~comprising~~ comprising:

~~—measuring,~~ measuring, using a three-dimensional array of a plurality of microphones arranged in a first predefined measuring position relative to the surface element (ΔS), a first three-dimensional distribution of sound ~~pressure;~~pressure;

~~—calculating,~~ calculating, based on the first three-dimensional distribution of sound pressure, ~~the air particle~~ an air-particle velocity (u_n) perpendicular to the surface element (ΔS) and on the surface element (ΔS), and ~~the sound~~ a sound pressure (p) on the surface element (ΔS), resulting from the sound emitted from the surface (~~S ;~~ S ;

~~—arranging~~ arranging a sound source capable of emitting a volume velocity (Q_v) in the target ~~position;~~position;

~~—causing~~ causing the sound source to emit the volume velocity (~~Q_v ;~~ Q_v ;

~~—measuring,~~ measuring, using a three-dimensional array of a plurality of microphones arranged in a second predefined measuring position relative to the surface element (ΔS) and with the volume velocity (Q_v) emitted from the sound source in the target position creating a dominating sound, a second three-dimensional distribution of sound ~~pressure;~~pressure;

~~calculating,~~ calculating, based on the second three-dimensional distribution of sound pressure, ~~the sound~~ a sound pressure (p_v) at the surface element (ΔS) and the component of ~~the particle~~ a particle velocity ($u_{v,n}$) perpendicular to the surface element (ΔS) resulting from the volume velocity (Q_v) emitted from the sound source in the target ~~position,~~ position; and

~~determining~~ determining the sound pressure (Δp) in the target position in accordance with the formula

$$\Delta p = \iint_{\Delta S} \left[\frac{p_v}{Q_v} u_n - \frac{u_{v,n}}{Q_v} p \right] dS.$$

3. (Currently Amended) A method according to ~~claim 1 wherein~~ claim 1, the target position is a listening position suitable for being occupied by a human being.

4. (Currently Amended) A method according to ~~claim 1 wherein~~ claim 1, the air-particle velocity (u_n) perpendicular to the surface element (ΔS) resulting from the sound emitted from the surface (S) is calculated, based on the first three-dimensional distribution of sound pressure, using a Near-Field Acoustical Holography (NAH) method, and that the sound pressure (p_v) at the surface element (ΔS) resulting from the volume velocity (Q_v) emitted from the sound source in the target position is calculated, based on the second three-dimensional distribution of sound pressure, using a Near-Field Acoustical Holography (NAH) method.

5. (Currently Amended) A method according to ~~claim 2 wherein~~ claim 2, the air-particle velocity (u_n) perpendicular to the surface element (ΔS) and the sound pressure (p) resulting from the sound emitted from the surface (S) are calculated, based on the first three-dimensional distribution of sound pressure, using a Near-Field Acoustical Holography (NAH) method, and that

_____ the sound pressure (p_v) at the surface element (ΔS) and the air-particle velocity ($u_{v,n}$) perpendicular to the surface element ΔS resulting from the volume velocity (Q_v) emitted from the sound source in the target position are calculated, based on the second three-dimensional distribution of sound pressure, using a Near-Field Acoustical Holography (NAH) method.

6. (Currently Amended) A method according to ~~claim 1~~claim 1, wherein by ~~using~~using, as the volume velocity sound ~~source~~source, a simulator simulating acoustic properties of at least a head of a human being, the simulator having a simulated ear with an orifice and a sound source for outputting sound signals through the orifice of the simulated ear.

7. (Currently Amended) A method according to ~~claim 6~~claim 6, wherein the simulator simulates the acoustic properties of the head and a torso of a human being.

8. (Currently Amended) A method according to ~~claim 1~~claim 1, wherein by using, as the three-dimensional array of a plurality of microphones, an array having two parallel layers of microphones, where each layer comprises a plurality of microphones arranged in a two-dimensional grid.

9. (Currently Amended) A method according to ~~claim 1~~claim 1, by using, as the three-dimensional array of a plurality of microphones, an array comprising a combination of pressure microphones and particle velocity sensors.

10. (Currently Amended) A method according to ~~claim 9~~claim 9, by using, as the three-dimensional array of a plurality of microphones and velocity sensors, a planar array of combination sensors, each being able to measure both the sound pressure and the particle velocity component perpendicular to the array plane.

11. (Currently Amended) A method according to ~~claim 2~~ claim 2, the sound pressure (Δp) in the target position is determined as an approximation in accordance with the formula

$$\Delta p = \left[\frac{p_v}{Q_v} u_n - \frac{u_{v,n}}{Q_v} p \right] \Delta S .$$